

1 1. A method comprising:
2 blending a photodefinable polybenzoxazole
3 precursor with a filler having a particle size of less than
4 100 nanometers.

1 2. The method of claim 1 including blending the
2 photodefinable precursor with a filler consisting of
3 zirconia particles.

1 3. The method of claim 1 including blending the
2 photodefinable precursor with a filler consisting of silica
3 particles.

1 4. The method of claim 1 including blending the
2 photodefinable precursor with a filler having a particle
3 size less than 20 nanometers.

1 5. The method of claim 1 including blending the
2 photodefinable precursor with a filler having a particle
3 size of about 13 nanometers.

1 6. The method of claim 1 including curing the
2 precursor after blending with a filler.

1 7. The method of claim 1 including blending the
2 precursor with a filler so that the filler constitutes from
3 about 9 to about 20 percent by weight.

1 8. The method of claim 1 including forming a polymer
2 from said blended precursor and filler.

1 9. A photodefinable polymer for semiconductor
2 applications comprising:
3 a photodefinable polybenzoxazole precursor; and
4 a filler material having a particle size of less
5 than 100 nanometers.

1 10. The polymer of claim 9 wherein said filler
2 material consists of zirconia.

1 11. The polymer of claim 9 wherein said filler
2 material consists of silica.

1 12. The polymer of claim 9 wherein said filler
2 material has a particle size of less than 20 nanometers.

1 13. The polymer of claim 9 wherein said filler
2 material has a particle size of about 13 nanometers.

1 14. The polymer of claim 9 wherein said filler
2 material comprises from about 9 to about 20 percent by
3 weight.

1 15. A photodefinable polymer for semiconductor
2 applications comprising:
3 a photodefinable polybenzoxazole precursor; and
4 a filler comprising about 9 to about 20 percent
5 of the system, said filler having a particle size of less
6 than 20 nanometers.

1 16. The polymer of claim 15 wherein said filler
2 consists of zirconia particles.

1 17. The polymer of claim 15 wherein said filler
2 consists of silica particles.

1 18. The polymer of claim 15 wherein said filler has a
2 particle size of approximately 13 nanometers.

1 19. A polymer precursor for semiconductor
2 applications comprising:
3 a photodefinable polybenzoxazole precursor; and
4 a filler material having a particle size of less
5 than 100 nanometers.

1 20. The polymer of claim 19 wherein said filler
2 consists of zirconia particles.

1 21. The polymer of claim 19 wherein said filler
2 consists of silica particles.

1 22. The precursor of claim 19 wherein said filler
2 material has a particle size of less than 20 nanometers.

1 23. The precursor of claim 19 wherein said filler
2 material has a particle size of about 13 nanometers.

1 24. The precursor of claim 19 wherein said filler
2 material comprises about 9 to about 20 percent by weight.

1 25. An integrated circuit comprising:
2 a substrate; and
3 a photodefinable polymer formed on said
4 substrate, said polymer including a photodefinable resin
5 and a filler material having a particle size of less than
6 100 nanometers.

1 26. The circuit of claim 25 wherein said filler
2 material consists of zirconia particles.

1 27. The circuit of claim 25 wherein said filler
2 material consists of silica particles.

1 28. The circuit of claim 25 wherein said filler
2 material has a particle size of less than 20 nanometers.

1 29. The circuit of claim 25 wherein said filler
2 material has a particle size of about 13 nanometers.

1 30. The circuit of claim 25 wherein said filler
2 material comprises from about 9 to about 20 percent by
3 weight.